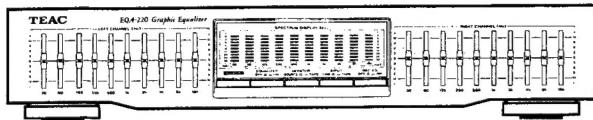


TEAC[®]



SERVICE MANUAL

EQA-220/EQA-110

Graphic Equalizer

NOTES

- PC boards shown are viewed from parts side.
- Parts marked with * require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- △ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.
[EX/T]: U. S. A. and GENERAL EXPORT [C]: CANADA
[GE]: GENERAL EXPORT [E]: EUROPE

1. SPECIFICATIONS

EQA-220

Number of Channels: 2

Number of Bands: 10

Center Frequencies:

30, 60, 125, 250, 500, 1k, 2k, 4k, 8k, 16kHz

Boost/Cut Range: ± 12 dB

Input :

Impedance: 47 k ohms

Nominal Level: 0.3 V

Outputs:

Impedance: 1 k ohms

Maximum Level: 6 V

Frequency Response*: 10 Hz – 100 kHz, ± 1 dB

Total Harmonic Distortion: 0.01 %

Signal-to-Noise Ratio*: 90 dB (IHF A Weighted)

Power Requirements:

115/230 V AC, 50/60 Hz

(U.S.A./General Export Model)

120 V AC, 60 Hz (Canada Model)

230 V AC, 50 Hz (Europe Model)

240 V AC, 50 Hz (U.K./Australia Model)

Power Consumption: 12 W

Dimensions (W × H × D):

435 × 83 × 213 mm (17-1/8" × 3-1/4" × 8-3/8")

Weight (net): 2.7 kg (5-15/16 lbs.)

Standard Accessories:

RCA pin-plug cords

EQA-110

Number of Channels: 2

Number of Bands: 10

Center Frequencies:

30, 60, 125, 250, 500, 1k, 2k, 4k, 8k, 16kHz

Boost/Cut Range: ± 12 dB

Input :

Impedance: 47 k ohms

Nominal Level: 0.3 V

Outputs:

Impedance: 1 k ohms

Maximum Level: 6 V

Frequency Response*: 10 Hz – 100 kHz, ± 1 dB

Total Harmonic Distortion: 0.01 %

Signal-to-Noise Ratio*: 90 dB (IHF A Weighted)

Power Requirements:

115/230 V AC, 50/60 Hz

(U.S.A./General Export Model)

120 V AC, 60 Hz (Canada Model)

230 V AC, 50 Hz (Europe Model)

240 V AC, 50 Hz (U.K./Australia Model)

Power Consumption: 8 W

Dimensions (W × H × D):

435 × 83 × 213 mm (17-1/8" × 3-1/4" × 8-3/8")

Weight (net): 2.5 kg (5-1/2 lbs.)

Standard Accessories:

RCA pin-plug cords

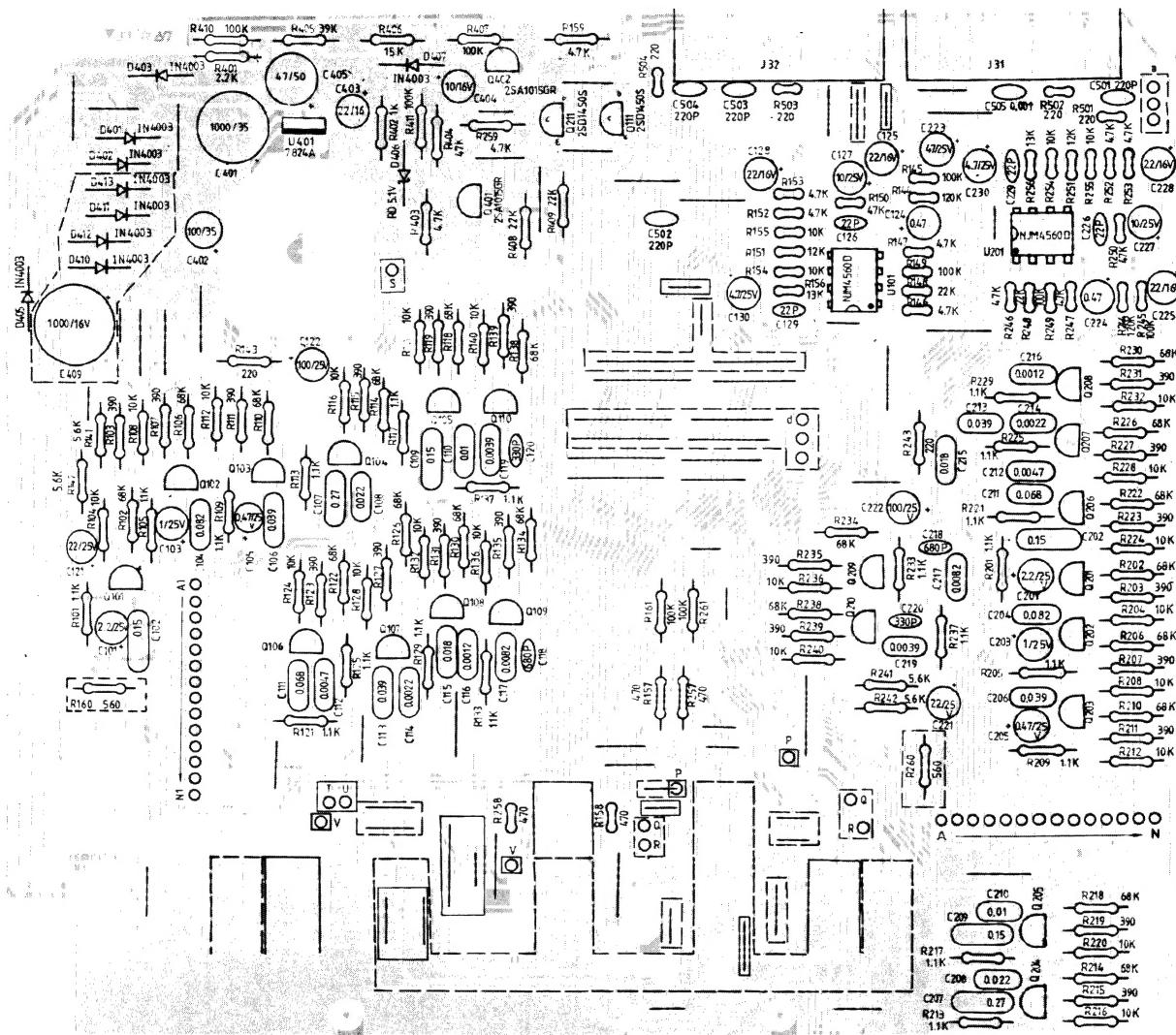
* Measured with the equalizer sliders set to center-flat frequency response.

● Improvements may result in the specifications and feature changing without notice.

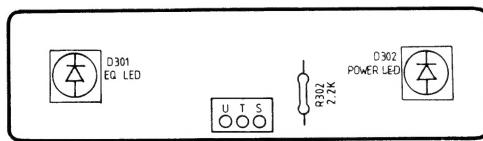
● Illustrations may differ slightly from production models.

2. PC BOARDS AND PARTS LIST

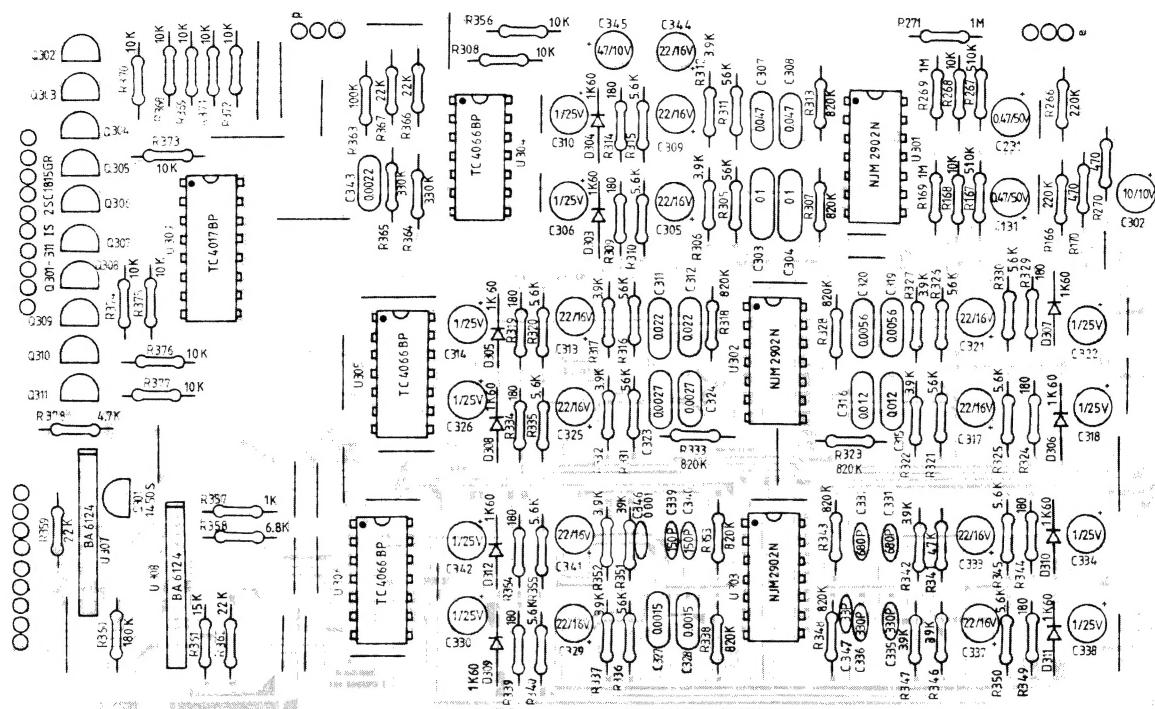
MAIN PCB



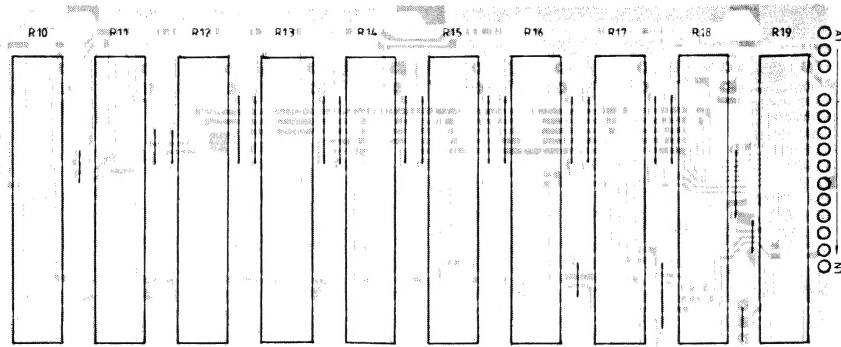
LED PCB (EQA-110)



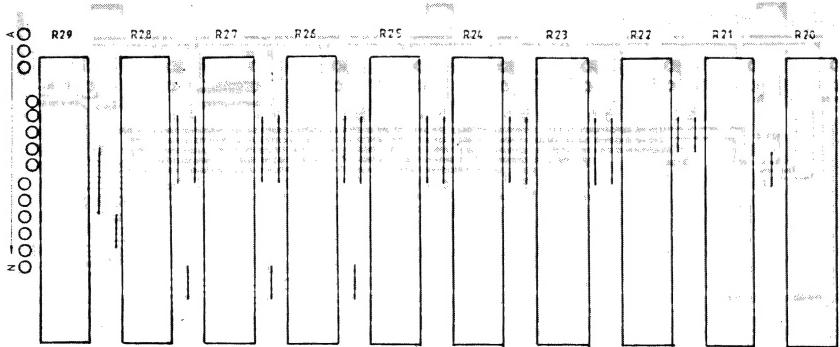
DISPLAY PCB (EQA-220)



VR PCB L



VR PCB R



MAIN PCB ASSY (EQA-220)

REF. NO.	PARTS NO.	DESCRIPTION
	*9A04291400	MAIN PCB ASSY [EX/T, GE, C]
	*9A04291420	MAIN PCB ASSY [E]
	9A04296500	PLATE, EARTH A
C401	△ 9A04171900	C, ELEC 1000UF/35V
C409	△ 9A04171800	C, ELEC 1000UF/16V
D401-403	△ 9A04166700	DIODE, IN4003
D405	△ 9A04166700	DIODE, IN4003
D406	9A04166800	DIODE, RD5.1E
D407	9A04166700	DIODE, IN4003
D410-413	△ 9A04166700	DIODE, IN4003 [EX/T, GE, C]
J31	9A04167200	JACK, RCA 4P YKC2I-0349
J32	9A04167300	JACK, RCA 4P YKC2I-0018A
Q101-110	9A04166900	TR, 2SC732TM
Q111,211	9A04167100	TR, 2SD1450S
Q201-210	9A04166900	TR, 2SC732TM
Q401,402	9A04167000	TR, 2SA1015GR
S33	9A04166400	SW, PUSH PBS-KS-002A
S401	△ 9A04166100	SW, PUSH SPUF12SE07-TK
U101,201	9A04166500	IC, NJM4560D
U401	△ 9A04166600	IC, NJM7824A

DISPLAY PCB ASSY (EQA-220)

REF. NO.	PARTS NO.	DESCRIPTION
	*9A04330200	DISPLAY PCB ASSY
D303-312	9A04162200	DIODE, 1K60
Q301	9A04162300	TR, 2SD1450S
Q302-311	9A03979200	TR, 2SC1815GR
U301-303	9A04162100	IC, NJM2902N
U304-306	9A04162000	IC, TC4066BP
U307,308	9A04161800	IC, BA6124
U309	9A04161900	IC, TC4017BP

VR PCB L ASSY (EQA-220)

REF. NO.	PARTS NO.	DESCRIPTION
R10-19	*9A04330800 9A04167500 9A04167700	VR PCB L ASSY VR, SLIDE 250K LED, 3534HD

VR PCB L ASSY (EQA-110)

REF. NO.	PARTS NO.	DESCRIPTION
R10-19	*9A04329900 9A04167500	VR PCB L ASSY VR, SLIDE 250K

VR PCB R ASSY (EQA-220)

REF. NO.	PARTS NO.	DESCRIPTION
R20-29	*9A04330900 9A04167500 9A04167700	VR PCB R ASSY VR, SLIDE 250K LED, 3534HD

VR PCB R ASSY (EQA-110)

REF. NO.	PARTS NO.	DESCRIPTION
R20-29	*9A04330000 9A04167500	VR PCB R ASSY VR, SLIDE 250K

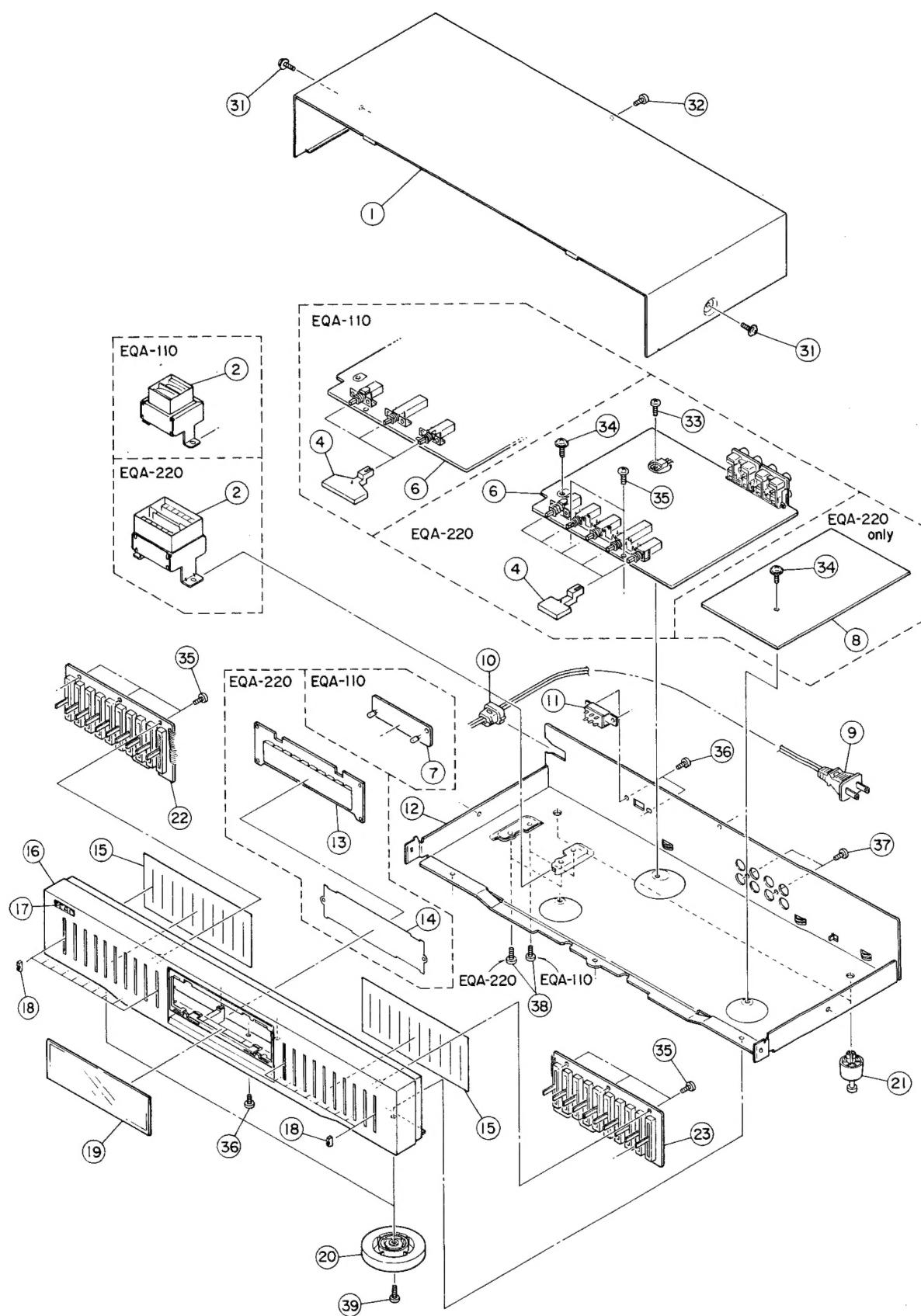
MAIN PCB ASSY (EQA-110)

REF. NO.	PARTS NO.	DESCRIPTION
	*9A04291300	MAIN PCB ASSY [EX/T, GE, C]
	*9A04291320	MAIN PCB ASSY [E]
	9A04296500	PLATE, EARTH A
C401	△ 9A04171900	C, ELEC 1000UF/35V
D401-403	△ 9A04166700	DIODE, IN4003
D405	△ 9A04166700	DIODE, IN4003
D406	9A04166800	DIODE, RD5.1E
D407	9A04166700	DIODE, IN4003
J31	9A04167200	JACK, RCA 4P YKC2I-0349
J32	9A04167300	JACK, RCA 4P YKC2I-0018A
Q101-110	9A04166900	TR, 2SC732TM
Q111,211	9A04167100	TR, 2SD1450S
Q201-210	9A04166900	TR, 2SC732TM
Q401,402	9A04167000	TR, 2SA1015GR
S31	9A04166200	SW, PUSH PBS-22LP3-F18
S32	9A04166300	SW, PUSH PBS-42LP3-F18
S401	△ 9A04166100	SW, PUSH SPUF12SE07-TK
U101,201	9A04166500	IC, NJM4560D
U401	△ 9A04166600	IC, NJM7824A

LED PCB ASSY (EQA-110)

REF. NO.	PARTS NO.	DESCRIPTION
D301	*9A04330100 9A04167900	LED PCB ASSY LED, 333AD (ORANGE)
D302	9A04167800	LED, 33310C (RED)

3. EXPLODED VIEW AND PARTS LIST



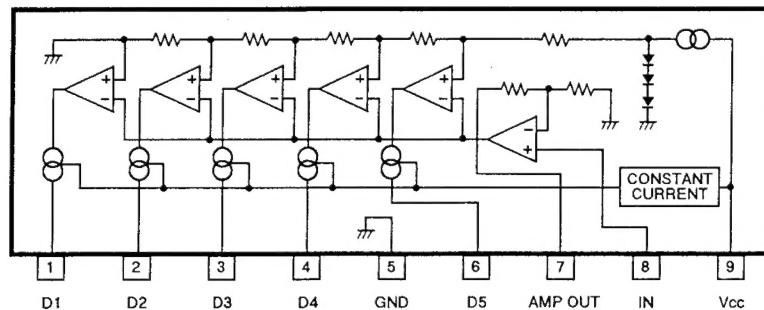
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1	*9A04156200	BONNET	
2	△ 9A04156900	TRANS.	EQA-110 C
	△ 9A04157000	TRANS.	EQA-110 E
	△ 9A04157100	TRANS.	EQA-110 EX/T, GE
	△ 9A04157200	TRANS.	EQA-220 C
	△ 9A04157300	TRANS.	EQA-220 E
	△ 9A04157400	TRANS.	EQA-220 EX/T, GE
4	9A04157500	BUTTON, PUSH	EQA-220
	9A04157600	BUTTON, PUSH	EQA-110
6	*9A04291300	MAIN PCB ASSY	EQA-110 EX/T, GE, C
	*9A04291320	MAIN PCB ASSY	EQA-110 E
	*9A04291400	MAIN PCB ASSY	EQA-220 EX/T, GE, C
	*9A04291420	MAIN PCB ASSY	EQA-220 E
7	*9A04330100	LED PCB ASSY	EQA-110
8	*9A04330200	DISPLAY PCB ASSY	EQA-220
9	△ *9A04156600	AC CORD	EX/T, C
	△ *9A04156700	AC CORD	GE
	△ *9A04156800	AC CORD	E
10	△ *9A04159600	BUSHING, SPT-I #2271	
11	△ 9A04158200	SW, SLIDE SL13B-022	EX/T, GE
12	*9A04156300	CHASSIS, MAIN	EQA-110 EX/T
	*9A04309600	CHASSIS, MAIN	EQA-110 C
	*9A04309700	CHASSIS, MAIN	EQA-110 E
	*9A04309800	CHASSIS, MAIN	EQA-110 GE
	*9A04309900	CHASSIS, MAIN	EQA-220 C
	*9A04310000	CHASSIS, MAIN	EQA-220 E
	*9A04310100	CHASSIS, MAIN	EQA-220 GE
	*9A04310300	CHASSIS, MAIN	EQA-220 EX/T
13	*9A04161700	DISPLAY UNIT, LP910-1/3H6Y....	EQA-220
14	*9A04157800	COVER, METER	EQA-220
15	*9A04157700	MASK, SLIDE	
16	*9A04156400	PANEL, FRONT	EQA-110
	*9A04156500	PANEL, FRONT	EQA-220
17	*9A04291000	EMBLEM, TEAC	
18	9A04158000	KNOB, SLIDE	EQA-220
	9A04158100	KNOB, SLIDE	EQA-110
19	*9A04157900	WINDOW	EQA-110
	*9A04310400	WINDOW	EQA-220
20	9A04291100	FOOT ASSY	
21	9A04158300	FOOT, FF-025	
22	*9A04330800	VR PCB L ASSY	EQA-220
	*9A04329900	VR PCB L ASSY	EQA-110
23	*9A04330900	VR PCB R ASSY	EQA-220
	*9A04330000	VR PCB R ASSY	EQA-110
31	*9A04158600	SCREW, CAP-S T3*6 (BLK)	
32	*9A04158700	SCREW, C-TITE T3*8 (BLK)	
33	*9A04159000	SCREW, BTT-S T3*8	
34	*9A04158900	SCREW, CAP-S T3*6	
35	*9A04158800	SCREW, PTT-P T3*8	
36	*9A04159300	SCREW, BTT-S T3*6	
37	*9A04159100	SCREW, BTT-P T3*8	
38	*9A04159200	SCREW, BTT-S T4*8	
39	*9A04159400	SCREW, BTT-S T3*10	

INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	*9A04160500	RCA PIN-PLUG CORDS	
	*9A04071200	EQA-110 OWNER'S MANUAL (MULTI.)	EQA-110 C, E, GE
	*9A04121600	EQA-110 OWNER'S MANUAL (ENG./SPANISH)	EQA-110 EX/T
	*9A04071300	EQA-220 OWNER'S MANUAL (MULTI.)	EQA-220 C, E, GE
	*9A04121700	EQA-220 OWNER'S MANUAL (ENG./SPANISH)	EQA-220 EX/T

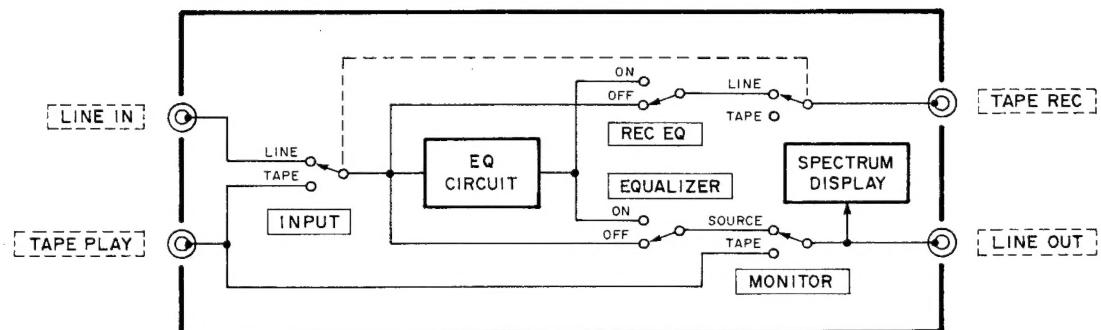
4. IC BLOCK DIAGRAM

BA6124

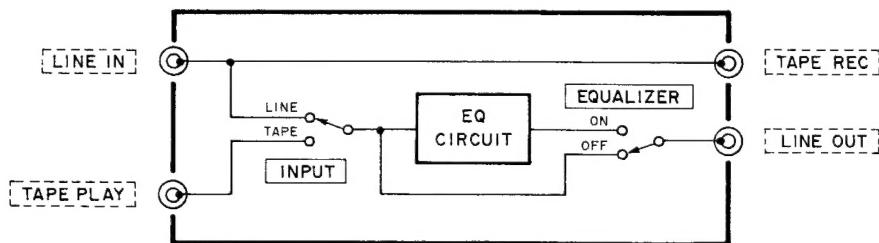


5. BLOCK DIAGRAMS

EQA-220



EQA-110

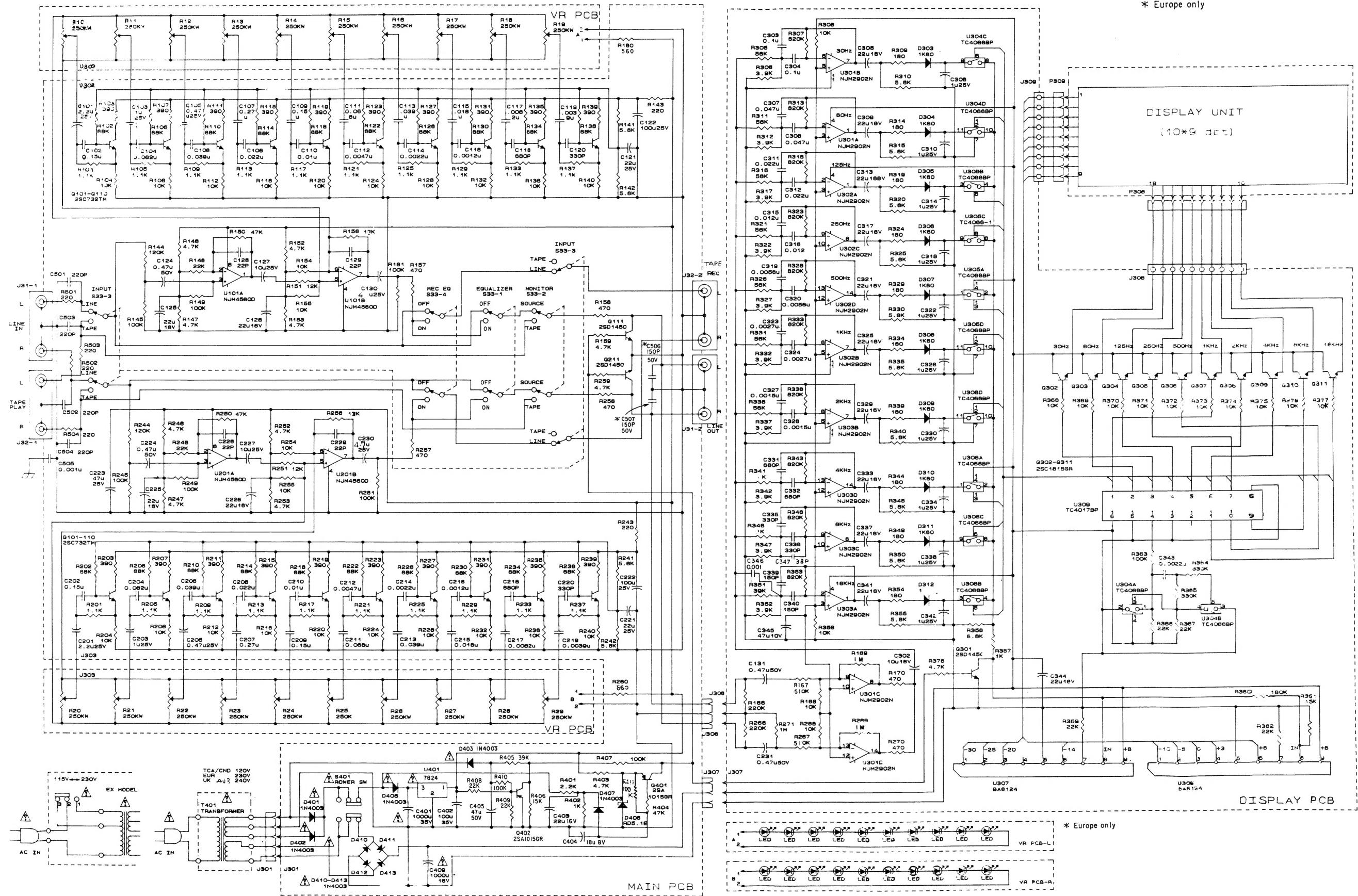


6. EQA-220 SCHEMATIC DIAGRAM

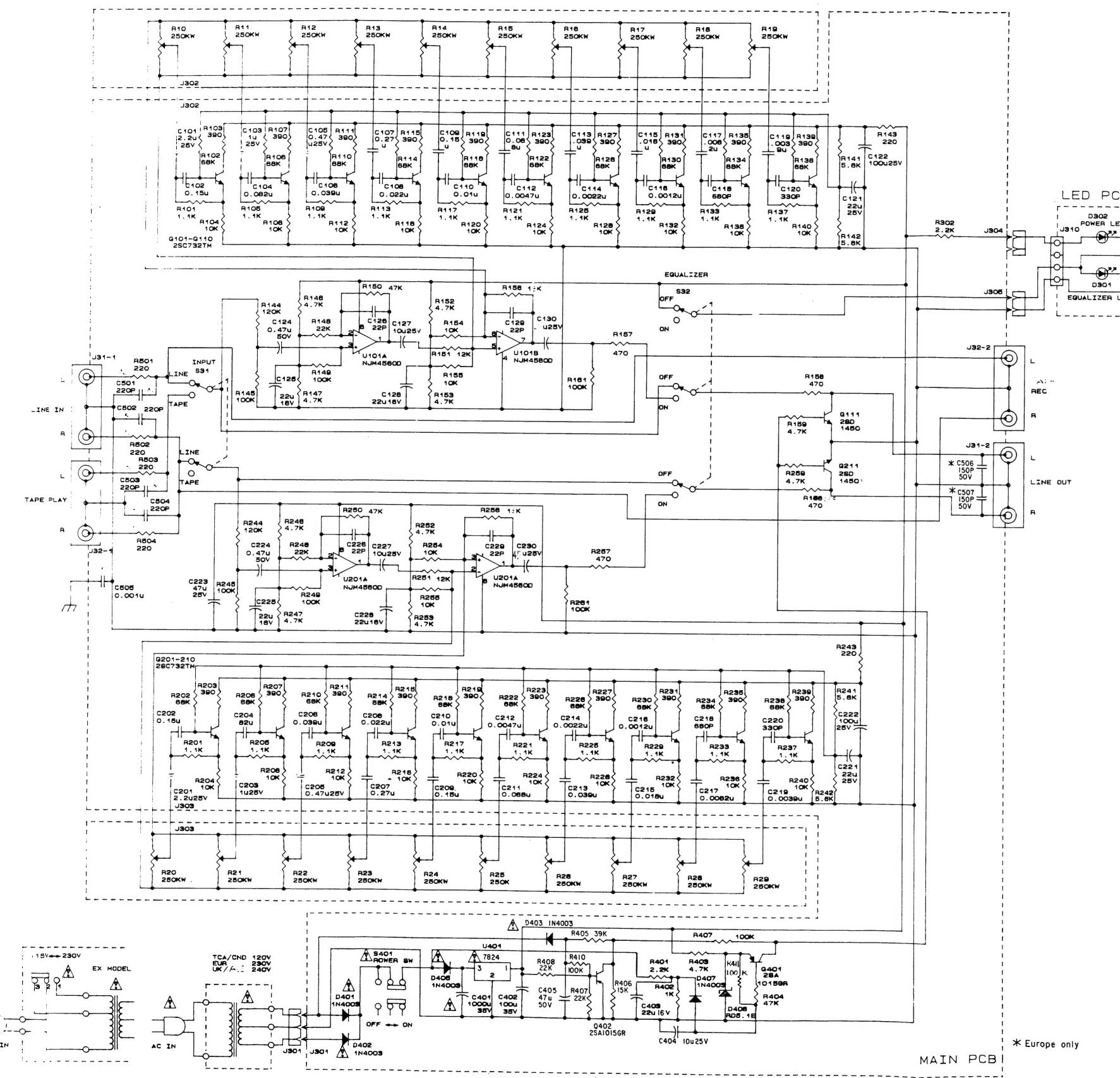
INSTRUCTIONS FOR SERVICE PERSONNEL

BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the TEAC part list and ensure exact replacement.



7. EQA-110 SCHEMATIC DIAGRAM



* Europe only

INSTRUCTIONS FOR SERVICE PERSONNEL
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the TEAC part list and ensure exact replacement.

EQA-220/EQA-110

TEAC®

TEAC CORPORATION	Musashino Center Bldg., 1-19-18, Nakacho, Musashino-shi, Tokyo 180, Japan	Phone:(0422)52-5081
TEAC AMERICA, INC.	7733 Telegraph Road, Montebello, California 90640	Phone:(213)726-0303
TEAC CANADA LTD.	340 Brunel Road, Mississauga, Ontario L4Z 2C2, Canada	Phone:416-890-8008
TEAC UK LIMITED	5 Marlin House, Marlins Meadow, The Croxley Centre, Watford, Herts. WD1 8YA, U.K.	Phone:0923-819631
TEAC DEUTSCHLAND GmbH	Bahnstrasse 12, 6200 Wiesbaden-Erbenheim, Germany	Phone:0611-71580
TEAC FRANCE S.A.	17, Rue Alexis-de-Tocqueville, CE 005 92182 Antony Cedex, France	Phone:(1)42.37.01.02
TEAC BELGIUM NV/SA	143C Woluwelaan, 1831 Machelen-Diegem, Belgium	Phone:(02)725-6555
TEAC NEDERLAND BV	Perkinsbaan 11, 3439 ND Nieuwegein, Nederland	Phone:03-402-30229
TEAC AUSTRALIA PTY., LTD. A.C.N. 005 408 462	106 Bay Street, Port Melbourne, Victoria 3207, Australia	Phone:(03)646-1733
TEAC ITALIANA S.p.A.	Via C. Cantù 5, Cinisello Balsamo, Milano, Italy	Phone:02-66010500